DISTANCE EDUCATION AND THE INTEGRATION OF ELEARNING: A GRADUATE STUDIES EXPERIENCE

Abstract

Historically distance education consisted a combination of face-to-face blocks of time and surface mailed packages. However, advances in information technology literacy, as well as the abundance of personal computers, has placed eLearning in increased demand. The authors of this paper describe the planning, implementation and evaluation, of the blending of eLearning with face-to-face blocks of time in the postgraduate nursing forum. Experiences of this particular student group are also discussed.

Keywords

Nursing; education; blended content; online; eLearning; graduate; distance.

Key points

- Online tutorials assist in the development of critical thinking.
- While not every student will enjoy the eLearning medium, effective learning will still occur.
- Balancing different students e-moderation requirements can be effectively met with the use of multiple e-moderators, each of whom employ differing strategies.

Introduction

Advances in information technology (IT) literacy, as well as the abundance of home computers has led to an increased demand and consequent use of online distance education. Combinations of eLearning and face-to-face blocks have in turn begun to offer a new flexibility in distance education. Where distance education was traditionally undertaken as a geographical necessity, some students able to access on-site 'internal' education are now choosing distance education to better meet their androgogical needs. A combination of eLearning and face-to-face education is an approach faculty at the Otago Polytechnic, Christchurch Polytechnic Institute of Technology and Universal College of Learning (members of the Tertiary Accord of New Zealand – TANZ) have taken in the delivery of one core subject in their Masters of Nursing Programme.

Background literature

ELearning is anywhere, anytime learning (Salmon, 2004; Carnwell, 2000). It is an effective distance education medium characterised by the use of computer technologies and digital tools, particularly those associated with the internet or CDROM (Ministry of Education, 2004). Advantages of eLearning include: increased student autonomy; facilitation of a realistic balance between learning and commitments, both professional and personal; and elimination of potential student concerns such as embarrassment of public mistakes and working at a slow pace (Johnston, 1997; Cook et al., 2004). Quality eLearning provides an innovative learning experience. It introduces new learning techniques allowing a student to take charge of what, how, and why they learn (Hegarty, 2004).

The success of eLearning depends upon a multitude of factors. If effective eLearning is to occur a combination of active participation, social interaction and collaboration needs to transpire (Alexander & Boud, 2001, pp. 3-15; Thurmond & Wambach, 2004). Androgogical principles need also be considered. Experiential learning and an active engagement in the learning process, are as important in the online environment as they have been in the traditional classroom (Alexander & Boud). Techniques used in the delivery of eLearning courses which incorporate these qualities include: online discussion; questioning; tutorial support; content structure; and IT support (Billings, Connors & Skibe, 2001). Online discussion should be directed at critiquing ideas and theories and acting them out in debates, discussion forums and simulations (Alexander & Boud). Questioning, while increasing student confidence, will enable evaluation of individual performance through the instruction and feedback received during learning and tutorial support (Barker, 2002; Chadha & Nafay Kumail, 2002). Breakdown of course content into small units provides the flexibility to choose content suited to individual pace and time constraints. Student IT assistance, meanwhile, will reduce anxiety and maximise any available eLearning opportunities (Cook et al., 2004; Wilson & Weiser, 2001).

Effective online interaction is a challenge not only for the student, but also for the online teacher, or e-moderator (Sims, 2003). Successful e-moderating requires more than the transference of classroom resources and lecture notes to an online environment (Alexander & Boud, 2001, pp. 3-15). The role of the e-moderator is not simply in the provision of adequate resources, but rather the successful facilitation of online interaction and adequate student support. For successful eLearning to occur, online interaction is pivotal (Sims; Thurmond & Wambach, 2004). Placing a student in front of technology

without support serves only to lessen any eLearning experience (Steel & Hudson, 2001). E-moderators are required to think through the design of structured learning experiences and incorporate appropriate elements (Dauffenbach, Murphy & Zellner, 2004). The e-moderator requires not merely sufficient knowledge, but new attitudes and a range of different technical and communication skills, if they are to operate successfully in the online environment (Barker, 2002). The role of e-moderator, particularly in higher education, is fast becoming the predominant style of teaching (Salmon, 2004). If an e-moderator is to exploit online technology for teaching, they are required to understand its potential, which is different from that of any other teaching medium (Salmon).

Course overview

Since 2001 the Otago Polytechnic Master of Nursing programme has been offered externally in partnership across the TANZ Alliance. One course offered in the Master programme is 'Clinical Inquiry: Evidence for Practice.' The purpose of this course is to teach students to search and appraise evidence concerning clinical issues of relevance which relate to individual practice. Sourcing and retrieving appropriate evidence literature, critically appraising this information, and using the findings to make informed decisions for nursing care, are skills developed with the progression of this course. Areas of course content designed to assist in the direction of this development are:

- Examination of approaches to evidence based practice (EBP) in health care;
- Analysis of EBP and other perspectives in relation to clinical decision making;
- Formulation of searchable questions from clinical information needs;
- Information searching and retrieval skills from a range of sources including electronic data bases and the Internet;
- Critical appraisal skills utilising frameworks appropriate to the evidence being reviewed;

- Interpretation and comprehension of statistics;
- Examination of epidemiological concepts relevant to EBP;
- Making judgments on quality of evidence in relation to a clinical practice topic and question;
- Assessing the implementation of EBP including change processes and evaluation of decision making.

'Clinical Inquiry: Evidence for Practice' traditionally entailed nine days of face-to-face teaching. This teaching was delivered in three, three-day blocks over the course of a semester. In 2004 this format was altered with the incorporation of eLearning. Six online tutorials were added and one face-to-face block was removed. 'Clinical Inquiry: Evidence for Practice' became the first course in the Master programme to incorporate a blended content delivery. Benefits of blending content delivery and incorporating eLearning were perceived to be twofold. Firstly student travel would be reduced as would consequent expense and inconvenience. Secondly student tutorial preparation and online interaction would potentially increase critical thought, a technique not always demonstrated by students in face-to-face teaching (Salmon, 2004).

Blended content delivery and course transition

A review of current literature was undertaken to determine how best to incorporate eLearning within 'Clinical Inquiry: Evidence for Practice.' The medium decided upon was online tutorials. It was decided six online tutorials would be designed to substitute one 20 hour face-to-face block. While tutorial preparation and discussion is a time consuming process for a student, it was the ability of the tutorial process to develop critical thought that was felt to be significant (Salmon, 2004). Tutorials were delivered over the course of the semester commencing the week following the initial face-to-face block. The opening two tutorials were delivered over two week periods, while the

remaining four tutorials were delivered over a one week period. Each tutorial addressed a scenario structured around a research article related to a topic for which lectures would no longer be presented. Tutorials were divided into two sections: background questions relating to specific tutorial content; and critical appraisal of a relevant research article. Appraisal was seen as the principal tutorial component as it was this which was intended to develop critical thinking skills. Tutorial topics included: validity and bias; systematic reviews; qualitative research and evidence; diagnosis and screening; prognosis; and hierarchies of evidence and clinical decision making.

Lecturers' from each of the three course delivery sites were responsible for facilitation and moderation of tutorials they were designated. It was their responsibility to select a research article for the tutorial, critique it and generate questions for discussion. It was an expectation the lecturer would place a posting on the site at least twice in the week. Postings were intended to stimulate critical thought and discussion, generate debate, direct student-to-student moderation, provide direction, corroborate student information which had been presented and answer any questions which may arise. It was also an expectation the lecturer would provide a summary at the conclusion of the tutorial.

Following incorporation of eLearning for the course 'Clinical Inquiry: Evidence for Practice', efforts were made to ensure student familiarity with the online discussion and tutorial environment. On the initial day of the first face-to-face block students undertook a one hour introductory session in a computer laboratory. This session familiarised the student with the tutorial structure, the platform from which it would be delivered, and ensured the student had access and could logon to the online site. An online café was created to ease student interaction and to facilitate familiarity with online

discussion and tutorial format. A notice board upon login was accessible. It was required online sites be accessed for assignment discussion and some general inquiries. Copyright limitations ensured students gain access to online journals through quick-links or the library catalogue, also developing student search skills. Additionally each critical appraisal workshop in the first face-to-face block was presented in a format modelled around the online tutorials to generate student familiarity. Lastly, written information explaining the online tutorials was integrated into the course booklet.

Expected student interaction

To meet the learning outcomes of 'Clinical Inquiry: Evidence for Practice', student involvement in the six online tutorials was to equate to 20 hours class contact. As such, participation in online discussion on a regular basis was a necessity for the student – they were unable to merely observe. While tutorial contribution was not accounted for in student assessment it was a term of requirement. In the course outline there was no minimum number of postings stated and no minimum word limit specified for any posting. It was documented students would undertake participation within a 'timely manner.' To evenly distribute the number of online postings across all tutorials students were allocated responsibility for particular tutorials. Along with five or six other participants " …they were expected to be a main contributor to the critical discussion for that tutorial session." First semester students did differ from second in that participation in every tutorial – not just the allocated tutorial – was mandatory. Following the staff review of first semester tutorials, it was decided second semester students were required only to participate in their allocated tutorial. Participation in other tutorials would be voluntary. There was an expectation, however, students would read all postings for each tutorial. It was hoped this would maintain both the quality and number of postings as the

tutorials progressed. The responsibility of tutorial facilitation and moderation continue to lay with the lecturer.

Online tutorial results and student feedback

In the 2004 academic year 'Clinical Inquiry: Evidence for Practice' was offered on three separate occasions across the TANZ campuses. A total of 43 students enrolled, 15 in the first semester when the course was offered once, and 28 in the second semester when the course was offered twice. In first semester the online tutorials were moderated by two lecturers while the second semester saw moderation from four lecturers. Semester one saw 194 postings, with a mean of 13 per student. Individual posting figures for semester one tutorials were: tutorial one 83; tutorial two 31; tutorial three 20; tutorial four 27; tutorial five 21; and tutorial six 12 (refer to figure one). Semester two saw 244 postings, with a mean of nine per student. Individual posting figures for semester two tutorials were: tutorial one 37; tutorial two 27; tutorial three 27; tutorial four 31; tutorial five 67; and tutorial six 55 (refer to figure one). The nature of student posting for both semesters varied from social exchange to detailed and constructive critical debate.

A written end of course evaluation was received from all 2004 'Clinical Inquiry: Evidence for Practice' students. With the intention of preventing bias in student reflection through prompts, feedback was provided on a blank sheet of paper. Twenty eight percent of students found the number of postings for each tutorial overwhelming. They also found some course content daunting. Twenty one percent of students commented positively about their online learning experience from the commencement of tutorial one, while 44% developed an appreciation for eLearning during progression of the course. Thirty three percent of students did not like the medium of eLearning. Seventy two

percent of students found online tutorials beneficial for the development of their critical thinking and critical appraisal skills.

Discussion

The ‘Clinical Inquiry: Evidence for Practice’ student groups enrolled in first and second semesters varied in size only. The first semester group numbering 15 was smaller than the second semester group of 28. Comparing student online postings between semester one and semester two revealed limited difference. Of little consequence was the minimal disparity in the mean number of postings per student across the semester. Despite voluntary tutorial participation for those tutorials not allocated to the student in semester two, postings were not impaired significantly. This was supported in the written student feedback which suggested the majority of students accessed and participated in tutorials which were not allocated. A variation in posting activity between semesters one and two was, however, evident. Students in semester one commenced with vigorous activity. This was not sustained across the semester. Considering the magnitude of time involved with tutorial preparation student energy did appear to diminish as the semester progressed. Tutorial input may also have been diminished as a result of the final assessment falling due one week following the final tutorial. Students in semester two meanwhile commenced more cautiously and grew in confidence. It could be presumed the lack of inter-student familiarity owing to the combination of two tutorial groups from different campuses in semester two, may have created an environment in which students did not feel as secure. It is possible inter-student trust developed over the course of the semester leading to the increased interaction.

The nature of student postings across first and second semesters varied from socialisation exchanges to critical thought and detailed, constructive critical debate. Postings varied in length from two or three sentences to two or three pages with the majority remarkably detailed and expansive. Unexpectedly critical thought, and to a small extent critical debate, was apparent in early tutorials. Predictably, tutorial progression witnessed a greater student confidence and a deeper, more probing level of analysis. Students would frequently moderate each other using references to selected resources and reflection upon individual ideas and thoughts. This is likely due to a combination of having the time to read and reflect upon individual ideas before posting them and a desire to participate in tutorial discussion at a level similar to other students. Faculty believe this depth of knowledge construction and critical thinking appeared greater online than it did in face-to-face blocks. The online tutorial structure used in 'Clinical Inquiry: Evidence for Practice' does appear to foster the development of critical thought.

Benefits of seeking anonymous course evaluation and feedback with blank paper are: an absence of bias; and an accurate reflection of the individual student experience. This feedback format can also be problematic. Represented percentages are frequently low as not every student will address each aspect of the course or the learning medium. Feedback for 'Clinical Inquiry: Evidence for Practice' demonstrated 72% of students found online tutorials beneficial for the development of their critical thinking and critical appraisal skills. In the instance of 'Clinical Inquiry: Evidence for Practice' this is a principal skill the course strives to develop in a student. As such the transition to a blended teaching format can be deemed successful from a course perspective. Additionally 65% of students commented positively about their eLearning experience,

most feeling more comfortable with the progression of the course. One third of students, however, didn't like the eLearning medium. Furthermore, 28% of students found the number of postings for each tutorial overwhelming and found some course content daunting. While student concerns regarding the use of online tutorials from a faculty perspective appeared minimal, the more mature post graduate students may not have felt at ease in the online environment. With this in mind additional time could be spent familiarising students with this forum in the first face-to-face block. Student access to tertiary learning services and staff as an additional resource could also be reinforced.

E-moderating can be a time consuming process (Salmon, 2004). This was the experience of faculty involved with the delivery of 'Clinical Inquiry: Evidence for Practice.' Reading a posting, considering it and then providing a response could involve a large time commitment. There could often be large numbers of postings needing to be addressed, some of which required extensive response. Each lecturer developed different techniques of e-moderation. One approach was frequent responses to each individual posting with an end result of large numbers of postings. Another approach was waiting for the students to moderate each other or prompting them with a question when they failed to do so. Both approaches proved problematic for different students. Some students were overwhelmed with content while others were left feeling isolated. The advantage of different e-moderators for different tutorials was student exposure to four different forms of tutorial moderation. Accordingly most students needs were satisfied at some point.

The mean number of student postings for 2004 lay between nine and 13. Nine postings is a substantial student commitment given the preparation, reading and reflection involved in a single posting. Faculty need to review the required frequency of student

postings, what is considered ‘timely’, and what is an adequate minimum number of postings. Clarity in the presentation of student expectations also requires address. It would seem the six online tutorials designed to substitute one 20 hour face-to-face block have been adequate.

Consequent course refinements

Examination of the blended course delivery undertaken in ‘Clinical Inquiry: Evidence for Practice’ demonstrated clear success in 2004. Student and faculty feedback and attitudes were considered following the addition of the eLearning medium and both group perspectives were positive. Subsequently the TANZ Alliance has remained committed to the blended course delivery which incorporates face-to-face blocks with eLearning. Ongoing discussion is also occurring concerning the complete online delivery of ‘Clinical Inquiry: Evidence for Practice’ in 2006. If this option were to eventuate it has been decided the course would be offered concomitantly in blended format.

The advent of each online tutorial demonstrated a progression in student critical thought. For this reason the content and structure of each online tutorial remains unchanged. The year 2005, however, will herald the development of some guidelines for the e-moderator and the student. It is expected the e-moderator will monitor tutorial discussion four times per week. The e-moderator will also respond to student postings on three separate occasions throughout the week, limiting their postings to a maximum of four on each separate occasion. E-moderators will have a developed resource for each tutorial. This definitive answer guide across sites ensures continuity and a workload reduction. Student expectations will require a minimum of four postings per allocated tutorial: a minimum of two postings in answer to the set tutorial questions; and a

minimum of two postings in response to another student posting. A minimum of one posting will be required for the tutorials the students are not allocated – this needs to be in response to another student posting. Word limits for postings remain unrestricted. Student expectations will also be outlined more specifically in the course information pack. Lastly the combination of tutorials across sites will not occur. The 2004 evaluation of 'Clinical Inquiry: Evidence for Practice' indicated groups greater than 20 in number appeared to inhibit tutorial participation.

While a change in delivery format for 'Clinical Inquiry: Evidence for Practice' demonstrated minimal difficulties and was on the whole considered successful, problems did arise. The practical solutions outlined in this paper served to improve the course for both student and faculty alike. It is hoped other educators considering a transition to blended content may benefit from the experience of 'Clinical Inquiry: Evidence for Practice.'

Conclusion

The advent of professional accountability and evidenced based practice in combination with escalating research and job competition has in recent years led to rapid change in nursing responsibilities and care justification. To adequately meet these changes there is a continual need to update both knowledge and education. As consumers, nurses look to educational institutions for relevant content and flexibility in meeting their educational requirements. Despite variations in the IT skill capacity of nurses and the frailty of some telecommunication infrastructures, the success and enthusiasm which met the recent addition of an online component in course delivery for 'Clinical Inquiry: Evidence for Practice' has ensured TANZ transfer greater content across their courses via

online delivery. ELearning has become a more flexible and accessible option in the offer of postgraduate studies embraced by student and faculty alike. While the didactic approach of combining face-to-face blocks with online tutorials will not suit every student, it is a mode which caters to the majority, polarising only a small minority.

References

Alexander, S., & Boud, D. (2001). Learners still learn from experience when online. In: Stephenson J. *Teaching and Learning Online, Pedagogies for New Technologies* (pp. 3-15). London: Kogan Page Ltd.

Barker, P. (2002). On being an online tutor. *Innovations in Education and Teaching International. 39*(1), 3-13.

Billings, D. M., Connors, H. R., & Skiba, D. J. (2001). Benchmarking best practices in web-based nursing courses. *Advances in Nursing Science*. *23*, 41-52.

Carnwell, R. (2000). Pedagogical implications of approaches to study in distance learning: Developing models through qualitative and quantitative analysis. *Journal of Advanced Nursing. 31*(5), 1018-1028.

Chadha, G., & Nafay Kumail, S. M. (2002). *E Learning an expression of the knowledge economy.* New Delhi, India: Tata McGraw-Hill Publishing Company Limited.

Cook, G., Thynne, E., Weatherhead, E., Glenn, S., Mitchell, A., & Bailey, P. (2004). Distance learning in post-qualifying nurse education. *Nurse Education Today. 24,* 269-276.

Dauffenbach, V., Murphy, L., & Zellner, K. (2004). Distance education experiential learning activity for novice faculty. *Nurse Educator. 29*(2), 71-74.

Hegarty, B. (2004). *The impact of technology on the quality of teaching and learning in tertiary institutions: literature review.* Unpublished doctoral dissertation, University of Wollongong, Wollongong, New South Wales, Australia.

Johnston, R. (1997). Distance Learning: Medium or message? *Journal of Further and Higher Education. 21*(1), 107-122.

Ministry of Education. (2004). *Interim ELearning Framework.* Wellington, New Zealand: Government Printing Office.

Salmon, G. (2004). *E moderating: The key to teaching & learning online (2nd ed).* London: Routledge Falmer.

Sims, R. (2003). Promises of interactivity: Aligning learner perceptions and expectations with strategies for flexible and online learning. *Distance Education. 24*(1), 87-103.

Steel, J., & Hudson, A. (2001). Educational technology in learning and teaching: The perceptions and experiences of teaching staff. *Innovations in Education and Teaching International. 38*(2), 103-111.

Thurmond, V., & Wambach, K. (2004). Understanding interactions in distance education: A review of the literature. *International Journal of Instructional Technology and Distance Learning.* 1(1), Accessed January 13, 2005, from http://itdl.org/journal/Jan_04/article02.htm

Wilson, R. L., & Weiser, M. (2001). Adoption of asynchronous learning tools by traditional full-time students: A pilot study. *Information Technology and Management. 2,* 363-375.

Figure 1: Student Postings for Online Tutorials